

**EPA Superfund
Record of Decision:**

**OUTBOARD MARINE CORP.
EPA ID: ILD000802827
OU 01
WAUKEGAN, IL
05/15/1984**

OUTBOARD MARINE CORPORATION (OMC), WAUKEGAN, ILLINOIS.

#DR

DOCUMENTS REVIEWED:

I HAVE REVIEWED THE FOLLOWING DOCUMENTS DESCRIBING THE ANALYSIS OF COST-EFFECTIVENESS OF REMEDIAL ALTERNATIVES FOR THE OMC SITE:

- OMC FEASIBILITY STUDY, CH2M-HILL, JULY 14, 1983
- OMC TECHNICAL DOCUMENTATION (A STAFF SUMMARY OF THE INFORMATION COLLECTED DURING SAMPLING, MODELING AND ENGINEERING STUDIES CONDUCTED BY REGION V AS PART OF THE LITIGATION EFFORT)
- SUMMARY OF THE REMEDIAL ACTION ALTERNATIVE SELECTION
- RESPONSIVENESS SUMMARY ADDRESSING COMMENTS RECEIVED FROM THE PUBLIC.

#DE

DECLARATIONS:

CONSISTENT WITH CERCLA AND THE NCP, I HAVE DETERMINED THAT THE SOURCE CONTROL REMEDY DESCRIBED IN TABLE 1 IS THE APPROPRIATE FUND-FINANCED ACTION FOR THIS SITE IN ACCORDANCE WITH SECTION 300.68(J) AND (K) OF THE NCP. ALTHOUGH THE SELECTED REMEDY DOES NOT MEET ALL THE REQUIREMENTS OF REGULATIONS ISSUED UNDER TSCA AND IS SOMEWHAT LESS PROTECTIVE THAN THE COST-EFFECTIVE OPTION AS DEFINED BY THE NCP, THE REMEDY IS EXPECTED TO BE REASONABLY EFFECTIVE IN PREVENTING THE MIGRATION OF PCB FROM THE SITE WHICH WOULD THREATEN PUBLIC HEALTH, WELFARE OR THE ENVIRONMENT. IN ADDITION, THIS REMEDY IS EXPECTED TO BE SIGNIFICANTLY LESS EXPENSIVE THAN ANY ALTERNATIVE WHICH WOULD BE FULLY CONSISTENT WITH TSCA REGULATIONS AND PROTECTIVE OF PUBLIC HEALTH. THEREFORE, I HAVE DETERMINED THAT THE LEVEL OF PROTECTION PROVIDED BY THE SELECTED REMEDY IS APPROPRIATE CONSIDERING THE NEED FOR ADDITIONAL PROTECTION AT THIS SITE AND THE AMOUNT OF MONEY AVAILABLE IN THE FUND TO RESPOND TO OTHER SITES WHICH PRESENT OR MAY PRESENT A THREAT TO PUBLIC HEALTH, WELFARE OR THE ENVIRONMENT.

THE STATE OF ILLINOIS HAS BEEN CONSULTED AND AGREES WITH THE REMEDY. THE ACTION WILL REQUIRE FUTURE OPERATION AND MAINTENANCE ACTIVITIES TO ENSURE THE CONTINUED EFFECTIVENESS OF THE REMEDY. THESE ACTIVITIES WILL BE CONSIDERED PART OF THE APPROVED ACTION AND ELIGIBLE FOR TRUST FUND MONIES FOR A PERIOD OF ONE YEAR. IN ACCORDANCE WITH SECTION 104(C)(3), THE STATE IS REQUIRED TO ENSURE THE CONTINUED OPERATION AND MAINTENANCE OF THE SELECTED REMEDY.

IN ADDITION, THE OFFSITE TRANSPORT AND SECURE DISPOSITION OF THE HIGHLY CONTAMINATED MATERIAL (SEE TABLE 1) IS MORE COST EFFECTIVE THAN OTHER REMEDIAL ACTION AND IS NECESSARY TO PROTECT PUBLIC HEALTH, WELFARE OR THE ENVIRONMENT.

LEE M. THOMAS
ASSISTANT ADMINISTRATOR
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

MAY 15, 1984
DATE.

**SUMMARY OF REMEDIAL ALTERNATIVE
SELECTION - OMC HAZARDOUS WASTE SITE,
WAUKEGAN, ILLINOIS**

#SLD

I. SITE LOCATION AND DESCRIPTION

THE OUTBOARD MARINE CORPORATION SITE (OMC) IS LOCATED NEAR THE INTERSECTION OF GRAND AVENUE AND SHERIDAN ROAD ON THE WEST SHORE OF LAKE MICHIGAN IN WAUKEGAN, ILLINOIS, ABOUT 37 MILES NORTH OF CHICAGO AND 10 MILES SOUTH OF THE WISCONSIN STATE BORDER. SEE DIAGRAM ON NEXT PAGE.

WAUKEGAN HARBOR IS AN IRREGULARLY SHAPED HARBOR ABOUT 37 ACRES IN AREA. THE TWO AREAS OF CONCERN ARE SLIP NO. 3 AND THE UPPER HARBOR. PCB CONCENTRATIONS IN SLIP NO. 3 ARE GREATER THAN 500 PARTS PER MILLION (PPM). IN THE UPPER HARBOR, PCB CONCENTRATIONS ARE BETWEEN 50 AND 500 PPM. WATER DEPTHS IN THE HARBOR GENERALLY VARY FROM 14 TO 25 FEET WITH SOME SHALLOWER DEPTHS IN SLIP NO. 3. THE HARBOR SEDIMENTS CONSIST OF 1 TO 7 FEET OF VERY SOFT ORGANIC SILT (MUCK) OVERLYING TYPICALLY 4 FEET OF MEDIUM DENSE, FINE TO COARSE SAND. A VERY STIFF SILT (GLACIAL TILL) THAT TYPICALLY RANGES FROM 50 TO MORE THAN 100 FEET THICK UNDERLIES THE SAND. THE ENTIRE HARBOR IS BORDERED BY 20-TO 25-FT-LONG STEEL SHEET PILING, EXCEPT AT THE WAUKEGAN PORT DISTRICT BOAT LAUNCHING AREAS AND AT THE RETAINING WALL NEAR THE HARBOR MOUTH. THE SHEET PILES GENERALLY EXTEND INTO THE SAND LAYER ABOVE THE GLACIAL TILL.

THE NORTH DITCH IS A SMALL TRIBUTARY OF LAKE MICHIGAN THAT DRAINS SURFACE RUNOFF FROM ABOUT 0.11 SQUARE MILES OF OMC AND NORTH SHORE SANITARY DISTRICT PROPERTY. THE DITCH ALSO DRAINS SURFACE RUNOFF FROM AN AREA WEST OF OMC PROPERTY AND THE RAILROAD TRACKS. THE NORTH DITCH INCLUDES THE 600-FT-LONG, 20-FT-WIDE CRESCENT DITCH; THE 240-FT-LONG, 10- TO 20-FT-40-FT-WIDE OVAL LAGOON; AND A 2,000-FT-LONG, 10- TO 20-FT-WIDE EAST-WEST PORTION OF THE NORTH DITCH. PCB CONCENTRATIONS ARE BETWEEN 50 AND 5,000 PPM IN THE NORTH DITCH/CRESCENT DITCH/OVAL LAGOON AREA. THE U.S. DEPARTMENT OF THE INTERIOR MEASURED THE MEAN DAILY DISCHARGE OF THE DITCH BETWEEN MARCH AND SEPTEMBER 1979 AS 1.8 CUBIC FEET PER SECOND (CFS), WITH A MAXIMUM DISCHARGE OF 5.3 CFS. THEY CALCULATED THE 5-YEAR STORM EVENT TO BE 23 CFS.

THE PARKING LOT AREA IS LOCATED NORTH OF OMC'S PLANT NO. 2 AND IS ABOUT 9 ACRES IN AREA. PCB CONCENTRATIONS ARE BETWEEN 50 TO 5,000 PPM. THERE ARE THREE ENTRANCES TO THE PARKING LOT AREA: TWO FENCED ENTRANCES IN THE NORTHWEST CORNER OF OMC'S PROPERTY AND ONE FENCED ENTRANCE SOUTHEAST OF OMC'S NEW DIE-CAST COMPLEX AT THE INTERSECTION OF OMC'S PRIVATE ROAD AND SEAHORSE DRIVE.

THE GENERALIZED SUBSURFACE CONDITIONS IN THE NORTH DITCH/PARKING LOT AREA CONSIST OF TYPICALLY 30 FEET OF COMPACT, VERY FINE TO FINE SAND OVERLYING A STIFF TO VERY STIFF SILT (GLACIAL TILL). THE THICKNESS OF THE GLACIAL TILL TYPICALLY RANGES FROM 50 TO MORE THAN 100 FEET.

THE PRESENCE OF HIGH LEVELS OF PCBS IN SOIL AND HARBOR SEDIMENTS IN THE VICINITY OF THE OMC PLANT WAS DISCOVERED IN 1976. IN SLIP NO. 3, APPROXIMATELY 10,900 YD3 OF MATERIAL ARE CONTAMINATED BY PCBS (EXCEEDING 50 PPM). AVAILABLE DATA INDICATES THAT APPROXIMATELY 305,200 LB OF PCBS EXIST IN THE CONTAMINATED SLIP. CURRENTLY NO BARRIERS EXIST TO RETARD MIGRATION OF THE MATERIALS INTO THE UPPER HARBOR AND POTENTIALLY LAKE MICHIGAN. THIS IS EXACERBATED BY CONTINUAL BOAT TRAFFIC IN THE HARBOR. APPROXIMATELY 35,700 YD3 OF MUCK IN THE UPPER HARBOR ARE CONTAMINATED BY ABOUT 5,000 LB OF PCBS (EXCEEDING 50 PPM). SEE EXHIBIT C PG 1-6. IN THE NORTH DITCH/PARKING LOT AREA, APPROXIMATELY 175,800 YD3 OF MATERIAL ARE CONTAMINATED BY PCBS (EXCEEDING 50 PPM). CURRENTLY AVAILABLE INFORMATION INDICATES THAT APPROXIMATELY 771,200 LBS OF PCBS EXIST IN THIS CONTAMINATED AREA. SEE EXHIBIT C PG 1-6. CURRENTLY NO BARRIERS EXIST TO RETARD MIGRATION OF THE SUBSTANCES INTO THE ENVIRONMENT.

IT IS CURRENTLY ESTIMATED THAT 7 TO 20 LB OF PCBS ARE DISCHARGED ANNUALLY INTO LAKE MICHIGAN FROM THE NORTH DITCH. THE GROUNDWATER IS WITHIN 3 FEET OF THE SURFACE OF THE PARKING LOT AREA, RESULTING IN CONTAMINATION OF THIS WATER. IT IS ESTIMATED THAT THE SLOWLY MOVING WATER WILL BEGIN RELEASING SOME 8 LB/DAY OF PCBS INTO LAKE MICHIGAN IN APPROXIMATELY 60 YEARS. EXISTING AIR CONTAMINATION FROM THE NORTH DITCH WATERS IS ESTIMATED AT 15 LB/YR. ANY ADDITIONAL MOVEMENT OF THE SOIL, CURRENTLY UNDER THE PAVED PARKING LOT, COULD CAUSE ADDITIONAL VOLATILIZATION OF PCBS. SEE EXHIBIT C PG 6-16. APPROXIMATELY 98.4 PERCENT OF THE PCBS NOW FOUND IN THE SLIP/HARBOR AREA ARE LOCATED IN SLIP NO. 3, 1.6 PERCENT HAVE MIGRATED INTO THE UPPER HARBOR. SEE EXHIBIT C, PG 8-9.

#SH

SITE HISTORY

DISCHARGES OF PROCESS WATER COOLING WATER, AND WATER FROM FLOOR DRAINS, FROM OMC ARE THE MAJOR SOURCE OF PCB CONTAMINATION TO THE AREA. ABOUT 9 MILLION POUNDS OF PCB'S WERE PURCHASED FROM THE MONSANTO COMPANY FROM THE EARLY 1950'S TO 1971. THESE PCB'S WERE USED AS HYDRAULIC FLUIDS IN DIE CASTING MACHINES AND RELATED EQUIPMENT.

BECAUSE THE HYDRAULIC SYSTEMS IN WHICH THE HYDRAULIC FLUIDS WERE USED LEAKED ROUTINELY, THE FLUIDS CONTAINING PCB'S ESCAPED FROM DIE-CAST MACHINERY ONTO THE SURROUNDING FLOOR AREA. OMC HAS ADVISED U.S. EPA THAT 10 TO 15 PERCENT OF ALL PCB'S PURCHASED MAY HAVE ESCAPED THROUGH FLOOR DRAINS AND AN OIL INTERCEPTOR SYSTEM. THE FLOOR DRAINS DISCHARGE TO WAUKEGAN HARBOR AND THE NORTH DITCH DRAINAGE. U.S. EPA HAS ESTIMATED THAT THE DISCHARGE COULD HAVE BEEN AS HIGH AS 20%.

RELEASE OF PCB'S FROM THE SITE IS FROM SURFACE WATER, VOLATILIZATION, GROUNDWATER, AND THE FOOD CHAIN. POSSIBLE RECEPTORS INCLUDE THE BIOLOGICAL COMMUNITY OF THE HARBOR, NORTH DITCH, AND NEARSHORE LAKE MICHIGAN AREA. PEOPLE ARE EXPOSED OR POTENTIALLY EXPOSED THROUGH FISH CONSUMPTION, POTENTIALLY THROUGH THE DRINKING WATER SUPPLY, AND BY DIRECT CONTACT.

THE OFFICIAL 1980 CENSUS FIGURE FOR THE CITY OF WAUKEGAN IS 67,653. THE HARBOR AREA, HOWEVER, IS ZONED FOR INDUSTRIAL USE. FIFTEEN BUSINESSES ARE LOCATED IN THE IMMEDIATE HARBOR AREA AND PROVIDE JOBS TO APPROXIMATELY 3,500. THE LOCAL PORT HARBOR FOR PRIMARILY RECREATIONAL USE. LONG TERM PLANS ADDITIONALLY INCLUDE A DEVELOPMENT OF THE UPPER HARBOR. SEE EXHIBIT C PGS 6-12, 6-13.

THE POPULATION IS EXPOSED TO PCB THROUGH THREE MEDIA; AIR, WATER, AND THE FOOD CHAIN (PRIMARILY FISH). IT IS CURRENTLY ESTIMATED THAT 22 LB OF PCBS ARE RELEASED INTO LAKE MICHIGAN EACH YEAR FROM WAUKEGAN HARBOR WATER (BASED ON A STEADY STATE MODEL). APPROXIMATELY 12 TO 40 LB OF PCBS ARE RELEASED FROM THE HARBOR INTO THE LOCAL AIRSHED EACH YEAR. EXISTING AIR CONTAMINATION FROM THE NORTH DITCH WATERS IS ESTIMATED AT 15 LB/YR. SEE EXHIBIT C PGS 6-16 THROUGH 6-17. TOTAL PCB CONCENTRATION VARY FROM 0.6 PARTS PER BILLION (PPB) IN WAUKEGAN HARBOR TO LESS THAN 0.01 PPB IN LAKE MICHIGAN DIRECTLY OFFSHORE FROM WAUKEGAN HARBOR. THERE IS AN EMERGENCY WATER SUPPLY INTAKE FOR WAUKEGAN NEAR THE MOUTH OF THE HARBOR, ALTHOUGH IT IS RARELY UTILIZED. SEE EXHIBIT C PG 6-20. IN U.S. EPA STUDIES ON LAKE MICHIGAN FISH, RESULTS RANGED FROM CONCENTRATIONS OF 2.7 PPM TO 187 PPM PCB IN FATTY TISSUE FOR ALL SPECIES.

#ENF ENFORCEMENT

U.S. EPA FILED SUIT AGAINST THE OMC AND MONSANTO COMPANIES IN 1976. THE SUIT IS STILL IN EFFECT, NOT BEING BROUGHT TO TRIAL. THE EXISTING SUITS MAY BE DISMISSED AND REINSTATED AS A SUPERFUND COST RECOVERY ACTION FOLLOWING IMPLEMENTATION OF THE CLEANUP. U.S. EPA HAS CONDUCTED SEVERAL YEARS OF NEGOTIATIONS WITH OMC TO TRY AND REACH AN AGREEMENT REGARDING A CLEANUP PLAN. SINCE NO AGREEMENT COULD BE REACHED OVER A LONG PERIOD OF TIME, REGION V RECOMMENDED TO HEADQUARTERS THAT THE FUND BE ACCESSED FOR THE CLEANUP.

#AE ALTERNATIVES EVALUATION

THE FEASIBILITY STUDY BEGAN WITH AN EVALUATION OF OVER 70 UNIT PROCESSES OR METHODS TO DETERMINE THEIR POTENTIAL FOR CONTRIBUTING TO PCB REMOVAL. THE PROCESSES RETAINED FROM PRELIMINARY SCREENING WERE ASSEMBLED INTO 21 ALTERNATIVES. FINALLY 17 ALTERNATIVES AND TWO SUBALTERNATIVES WERE SELECTED FOR MORE DETAILED EVALUATION. FINAL ALTERNATIVE SELECTION WAS BASED UPON THE FEASIBILITY STUDY, INPUT FROM THE COMMUNITY RELATIONS PROGRAM, AND INPUT FROM VARIOUS HEADQUARTER'S OFFICES.

#CR COMMUNITY RELATIONS

PRIOR TO THE SELECTION OF THE APPROPRIATE REMEDIAL ACTION AT THE OMC SITE THE FOLLOWING ACTIONS WERE TAKEN AND THE DOCUMENTS IDENTIFIED WERE REVIEWED BY THE REGIONAL STAFF:

- A. ON MARCH 28, 1983, A FINAL WORK PLAN, SOURCE CONTROL FEASIBILITY STUDY, OMC SITE, WAUKEGAN, ILLINOIS WAS AUTHORIZED. U.S. EPA WORK AUTHORIZATION 13-5M28.0.
- B. ON JULY 14, 1983, A SOURCE CONTROL FEASIBILITY STUDY, OMC HAZARDOUS WASTE SITE, WAUKEGAN, ILLINOIS (FS) WAS COMPLETED.

- C. ON JULY 15, 1983, A PUBLIC COMMENT PERIOD TO EVALUATE AND COMMENT ON THE FS BEGAN. A PUBLIC INFORMATIONAL MEETING WAS HELD IN WAUKEGAN ON JULY 28, 1983, TO RESPOND TO ANY QUESTIONS BY THE PUBLIC. ON AUGUST 3, 1983, A PUBLIC MEETING WAS HELD IN WAUKEGAN TO RECEIVE FORMAL PUBLIC COMMENT ON THE FS. FINALLY, ON SEPTEMBER 1, 1983, THE EXTENDED PUBLIC COMMENT PERIOD WAS CLOSED.
- D. TWENTY-FIVE WRITTEN COMMENTS IN ADDITION TO THE COMMENTS RECEIVED DURING THE PUBLIC HEARING WERE RECEIVED AND RESPONDED TO BY THE REGION.
- E. ON MARCH 6, 1984, A SECOND PUBLIC COMMENT PERIOD TO EVALUATE AND COMMENT ON TWO ISSUES IN ADDITION TO THE FS BEGAN. A PUBLIC INFORMATIONAL MEETING WAS HELD IN WAUKEGAN ON MARCH 14, 1984, TO RESPOND TO ANY QUESTIONS BY THE PUBLIC. ON APRIL 4, 1984, THE PUBLIC COMMENT PERIOD CLOSED.
- F. OVER 250 PUBLIC COMMENTS WERE RECEIVED DURING THE PUBLIC COMMENT PERIOD AND RESPONDED TO BY THE REGION.
- G. AS AFFECTED AGENCIES, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AND THE U.S. CORP OF ENGINEERS WERE INFORMED OF AND INVOLVED IN THE PREPARATION OF THE FS. ADDITIONALLY, PURSUANT TO 16 U.S.C. 662(A), THE U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF INTERIOR WAS INFORMED ABOUT THE FS. NO ADVERSE COMMENTS WERE RECEIVED BY U.S. EPA FROM THESE AGENCIES.

#OEL

CONSISTENCY WITH OTHER ENVIRONMENTAL LAWS

U.S. EPA CONDUCTED THE FEASIBILITY STUDY PROCESS IN ACCORDANCE WITH THE NATIONAL CONTINGENCY PLAN, AND TO THE GREATEST EXTENT POSSIBLE, IN COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT. U.S. EPA DEVELOPED A COST EFFECTIVE ALTERNATIVE WHICH IS CONSISTENT WITH OTHER ENVIRONMENTAL LAWS APPLICABLE TO THE SITE. SINCE A FUND-BALANCED ALTERNATIVE IS UNDER REVIEW A SUPERFUND WAIVER FROM TSCA REQUIREMENTS MAY BE NEEDED.

#RA

RECOMMENDED ALTERNATIVE

IN ACCORDANCE WITH PART 300.68(J) U.S. EPA CONDUCTED A COMPLETE COST EFFECTIVE ANALYSIS CONCERNING A WIDE RANGE OF ALTERNATIVES. THE ALTERNATIVE PRESENTED BELOW ALSO CONTAINS FUND BALANCING CONSIDERATIONS.

SLIP NO. 3 AND UPPER HARBOR: HOT SPOT REMOVAL

PCB-CONTAMINATED SEDIMENT, SAND AND SILT WOULD BE DREDGED FROM THE LOCALIZED AREA NEAR THE FORMER OMC OUTFALL (DRAINAGE PIPE). THIS MATERIAL CONTAINS THE GREATEST PCB CONCENTRATIONS IN THE HARBOR AND REPRESENTS 92 PERCENT OF ALL THE PCB'S NOW FOUND IN SLIP NO. 3 AND THE UPPER HARBOR. THIS ALTERNATIVE WOULD REMOVE, FIX, AND DISPOSE OF OFFSITE AN ESTIMATED 5,700 YD3 OF PCB CONTAMINATED MATERIAL, CONTAINING ABOUT 286,500 LB OF PCB'S. THE MATERIAL WOULD BE DISPOSED OF IN AN OFFSITE LICENSED CHEMICAL WASTE LANDFILL. THE ESTIMATED COST FOR THIS ALTERNATIVE IS \$3,150,000.

SLIP #3 AND UPPER HARBOR: DREDGE, DEWATER, AND DISPOSE IN PARKING LOT

A SEDIMENT DISPERSAL CONTROL DEVICE WOULD BE INSTALLED AT THE SOUTHERN END OF THE UPPER HARBOR. A CLAY-LINED DEWATERING LAGOON WILL BE CONSTRUCTED ON THE OMC VACANT FOUNDRY PROPERTY. SEDIMENTS IN EXCESS OF 50 PPM PCB WILL BE REMOVED FROM THE HARBOR BY HYDRAULIC DREDGING. SEDIMENT SLURRY WILL BE PUMPED TO THE DEWATERING LAGOON. SUPERNATANT WOULD BE DECANTED, TREATED TO 1 PPB PCB'S AND RETURNED TO THE HARBOR.

SOLIDS WOULD BE TREATED IN TWO FASHIONS

- 1) HIGHLY CONTAMINATED MATERIAL FROM SLIP: DREDGE --- INITIAL DEWATERING --- FIXATION
- 2) LESS CONTAMINATED MATERIAL FROM THE HARBOR: DREDGE --- INITIAL DEWATERING --- MECHANICAL DEWATERING.

SOLIDS WILL BE PERIODICALLY REMOVED BY DRAGLINE AND HAULED BY TRUCK FOR DISPOSAL IN THE PARKING LOT. THIS WILL BE CODISPOSED WITH THE EXISTING CONTAMINATION IN THE PARKING LOT.

APPROXIMATELY 46,600 YD3 OF SEDIMENTS CONTAINING ABOUT 24,700 LBS OF PCB'S WOULD BE REMOVED FROM THE HARBOR, DEWATERED, AND DISPOSED IN THE PARKING LOT. CONTAMINATED LAGOON MATERIAL WOULD ALSO BE BROUGHT TO THE

PARKING LOT. THIS ALTERNATIVE IS ESTIMATED TO COST \$9,940,000.

NORTH DITCH AREA: HOT SPOT REMOVAL

PCB CONTAMINATED SOIL WOULD BE EXCAVATED FROM THE LOCALIZED AREAS IN THE CRESCENT DITCH AND OVAL LAGOON. THIS MATERIAL CONTAINS ABOUT 89 PERCENT OF ALL THE PCB'S NOW FOUND IN THE NORTH DITCH AREA, AND ABOUT 57 PERCENT OF ALL THE PCB'S NOW FOUND IN THE NORTH DITCH PARKING LOT AREAS. THIS ALTERNATIVE WOULD REMOVE AND DISPOSE OF AN ESTIMATED 5,500 YD3 OF SOIL CONTAINING ABOUT 440,500 LB OF PCB'S. THE SOIL WOULD BE DISPOSED OF IN AN OFFSITE LICENSED CHEMICAL WASTE LANDFILL. THE ESTIMATED COST IS \$740,000.

NORTH DITCH AREA: INSTALL BYPASS SEWER AND CONTAIN ONSITE CONTAMINATED N.D. MATERIAL

PCB-CONTAMINATED SOIL WOULD BE CONTAINED AND CAPPED IN THE CRESCENT DITCH/OVAL LAGOON AREA. THE NORTH DITCH WOULD BE PARTLY EXCAVATED TO INSTALL A BYPASS DRAINAGE PIPELINE. THE PCB-CONTAMINATED SOIL FROM THE BYPASS EXCAVATION WOULD BE PLACED IN THE CRESCENT DITCH/OVAL LAGOON AREA BEFORE CAPPING THE AREA. THIS ALTERNATIVE WOULD CONTAIN ABOUT 492,100 LB OF PCB'S IN 51,400 YD3 OF SOIL. THE ESTIMATED COST IS \$4,210,000.

PARKING LOT: CONTAIN AND CAP

APPROXIMATELY 277,700 LBS. OF PCB'S IN 105,000 YD3 OF SOIL OCCUR IN THE OMC PARKING LOT. 46,600 YD3 OF DREDGE MATERIAL FROM THE HARBOR WILL BE BROUGHT TO THE SITE, GRADED AND COMPACTED.

THE TOTAL CONTAMINATION WILL BE CONTAINED WITH SLURRY WALLS AND CAPPED IN PLACE. THE ELEVATION OF THE PARKING LOT WILL INCREASE 14 FEET. THIS PORTION OF THE PROJECT IS ESTIMATED TO COST \$3,210,000.

THE TOTAL ESTIMATED COST TO IMPLEMENT THE ABOVE RECOMMENDED CLEANUP ACTION IS \$21,250,000.

#OM

OPERATION AND MAINTENANCE

ACCORDING TO OUR MEMO CONCERNING PREDICTED O&M REQUIREMENTS OF THE PROPOSED PROJECT, O&M WILL INVOLVE MOVING OF VEGETATIVE CONTAINMENT CELL COVERS AND SAMPLING MONITORING WELLS. THE DESIGN LIFE OF THE STRUCTURES IS 30 YEARS. ANNUAL O&M COSTS ARE ESTIMATED TO BE 84,250. THIS IS ALSO ESTIMATED TO BE \$800,000 FOR 30 YEARS ON A PRESENT WORTH BASIS AT 10%.

THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY IS IDENTIFIED AS THE STATE AGENCY RESPONSIBLE FOR O&M.

#SCH

SCHEDULE

DATE OF IMPLEMENTATION

KEY MILESTONES

(AFTER ROD SIGNATURE)

COMPLETE ENFORCEMENT NEGOTIATIONS	30 DAYS
AWARE/AG FOR DESIGN COORDINATION	COMPLETED
SUPERFUND STATE CONTRACT	45 DAYS
AWARD IAG TO INITIATE DESIGN	40 DAYS
START DESIGN	45 DAYS
COMPLETE DESIGN	6 MONTHS
AWARD COOPERATIVE AGREEMENT FOR CONSTRUCTION	8 MONTHS
AWARD SUPERFUND STATE CONTRACT FOR CONSTRUCTION	8 MONTHS
START CONSTRUCTION	10 MONTHS
COMPLETE CONSTRUCTION	3.5 YEARS.

#FA

FUTURE ACTIONS

FOLLOWING CONSTRUCTION, U.S. EPA WILL BE RESPONSIBLE FOR O&M FOR ONE YEAR. AT THAT POINT LONG TERM O&M WILL REVERT TO STATE RESPONSIBILITY.

#TMA

TABLES, MEMORANDA, ATTACHMENTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
MAY 4, 1984

MEMORANDUM

SUBJECT: RECOMMENDATION FOR REMEDIAL IMPLEMENTATION ALTERNATIVE
SELECTION - OMC HAZARDOUS WASTE SITE, WAUKEGAN, ILLINOIS

FROM: VALDAS V. ADAMKUS
REGIONAL DIRECTOR

TO: LEE M. THOMAS
ASSISTANT ADMINISTRATOR
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

EPA HAS COMPLETED THE FOLLOWING REMEDIAL CERCLA ACTIVITIES AT THE OUTBOARD MARINE CORPORATION (OMC) SITE LOCATED IN WAUKEGAN, ILLINOIS.

ACTIVITY	DATE
FINAL WORK PLAN, SOURCE CONTROL FEASIBILITY STUDY	3/28/83
SOURCE CONTROL FEASIBILITY STUDY REPORT	7/15/83
OPENING OF FIRST PUBLIC COMMENT PERIOD	7/15/83
PUBLIC INFORMATIONAL MEETING	7/28/83
PUBLIC MEETING	8/3/83
CLOSE OF FIRST PUBLIC COMMENT PERIOD	9/1/83
OPENING OF SECOND PUBLIC COMMENT PERIOD	3/6/84
PUBLIC INFORMATIONAL MEETING	3/14/84
CLOSE OF SECOND PUBLIC COMMENT PERIOD	4/4/84.

REGION V HAS REVIEWED THE INFORMATION IN THE REPORTS AND HAS GIVEN CAREFUL CONSIDERATION TO THE COMMENTS RECEIVED IN THE PUBLIC COMMENT PERIODS. PURSUANT TO SECTION 104(C)(2) OF CERCLA, WE HAVE CONSULTED WITH THE STATE OF ILLINOIS BEFORE DETERMINING THE APPROPRIATE REMEDIAL ACTION. BASED ON OUR REVIEW, REGION V RECOMMENDS THAT THE FOLLOWING ACTIONS AT THE OMC SITE EFFECTIVELY MITIGATE AND MINIMIZE DAMAGE TO AND PROVIDE ACCEPTABLE PROTECTION OF PUBLIC HEALTH, WELFARE, AND THE ENVIRONMENT. THE RECOMMENDED ACTION INCLUDED SOME OFF-SITE TRANSPORT AS SUCH ACTION IS MORE COST-EFFECTIVE THAN OTHER REMEDIAL ACTIONS AND IS NECESSARY TO PROTECT PUBLIC HEALTH, WELFARE, AND THE ENVIRONMENT FROM THE POTENTIAL RISK WHICH MAY BE CREATED BY FURTHER EXPOSURE TO THE CONTINUED PRESENCE OF PCBS AT THE OMC SITE. AS DISCUSSED WITH YOUR STAFF, THE FOLLOWING RECOMMENDATION INCLUDES FUND BALANCED CONSIDERATIONS.

ACTION	ESTIMATED COST
DREDGE, DEWATER, DISPOSE, CAP IN PARKING LOT (SLIP NO.3 AND THE UPPER HARBOR)	\$ 9,940,000
DREDGE, REMOVE, FIX AND DISPOSE 5,700 YD3 OF PCB-CONTAMINATED MATERIAL	\$ 3,150,000
EXCAVATE NORTH DITCH, CONTAIN IN CRESCENT DITCH/OVAL LAGOON AND CAP	\$ 4,210,000
EXCAVATE AND DISPOSE 5,500 YD3 OF PCB-CONTAMINATED MATERIAL (CRESCENT DITCH/OVAL LAGOON)	\$ 740,000
CONTAIN AND CAP (PARKING LOT)	\$ 3,210,000
TOTAL	\$21,250,000.

OPERATION AND MAINTENANCE COST FOR THE SITE ARE ESTIMATED TO BE \$84,250 ANNUALLY, OR \$800,000 FOR 30 YEARS ON A PRESENT WORTH BASIS OF 10%. THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE.

REGION V ADDITIONALLY RECOMMENDS THAT EPA SHARE IN THE COSTS OF OPERATION AND MAINTENANCE FOR A PERIOD OF ONE YEAR FOLLOWING COMPLETION OF THE PROJECT. THIS TIME FRAME IS NEEDED TO ALLOW FOR SETTLING OF THE CELLS AND TO ASSURE THE INTEGRITY OF THE CELLS.

VALDAS V. ADAMKUS.

MR. BASIL CONSTANTELOS
DIRECTOR, WASTE MANAGEMENT DIVISION
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION V
230 SOUTH DEARBORN STREET
CHICAGO, IL 60604

RE: SOURCE CONTROL FEASIBILITY STUDY
OMC - WAUKEGAN HARBOR SITE

DEAR MR. CONSTANTELOS:

ON SEPTEMBER 19, 1983, THE AGENCY TRANSMITTED TO YOUR OFFICE A LETTER ENDORSING THE ALTERNATIVES SET FORTH IN SECTION 7 OF THE SOURCE CONTROL FEASIBILITY STUDY FOR THE OMC - WAUKEGAN HARBOR SITE DATED JULY 14, 1983, AS BEING AN APPROACH WHICH IS TECHNOLOGICALLY FEASIBLE IN PROVIDING ADEQUATE PROTECTION OF PUBLIC HEALTH, WELFARE AND THE ENVIRONMENT. THE AGENCY ALSO CONCLUDED THAT THE APPROACH WAS COST-EFFECTIVE AS LONG AS THE CONTROL ALTERNATIVES WERE IMPLEMENTED IN A PHASED MANNER TO ALLOW THE FLEXIBILITY TO ASSESS DEVELOPMENT OF NEW TECHNOLOGIES AT THE VARIOUS INCREMENTS OF THE PROJECT.

ON MAY 1, 1984, MEMBERS OF REGION V STAFF PRESENTED TO MYSELF, AGENCY STAFF MEMBERS, AND A REPRESENTATIVE OF THE ILLINOIS ATTORNEY GENERAL'S OFFICE A PROPOSAL WHICH WOULD REPLACE ALTERNATIVE 6B AS SET FORTH IN THE JULY 14, 1983, FEASIBILITY STUDY WITH ALTERNATIVE 6D AS SET FORTH IN A LETTER, DATED APRIL 4, 1984, WHICH WAS PREPARED IN RESPONSE TO A REQUEST FROM USEPA - REGION V BY THE AUTHORS OF THE FEASIBILITY STUDY. THE AGENCY DOES NOT OBJECT TO SUBSTITUTION OF ALTERNATIVE 6D AS LONG AS ALTERNATIVE 6D AND THE REMAINING SECTION 7 ALTERNATIVES ARE IMPLEMENTED IN A PHASED MANNER WHICH RECOGNIZES THE FISCAL CONSTRAINTS ON THE STATE OF ILLINOIS IN RAISING ITS MATCHING SHARE, AND WHICH ALLOWS THE FLEXIBILITY TO ASSESS THE DEVELOPMENT OF NEW TECHNOLOGIES AT THE VARIOUS INCREMENTS OF THE PROJECT.

SINCERELY,

RICHARD J. CARLSON
DIRECTOR

CC: JIM FRANK
ROGER KANERVA
GARY KING